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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|---|------------------------------|------------------|
| 10/618,864 | 07/14/2003 | Hiroshi Shigetaka | 9281/4602 | 6963 |
| 7590 | 04/05/2007 | Brinks Hofer Gilson & Lione P. O. Box 10395 Chicago, IL 60610 | EXAMINER HOLTON, STEVEN E | |
| | | | ART UNIT 2629 | PAPER NUMBER |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 04/05/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | |
|------------------------------|------------------------------|--------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/618,864 | SHIGETAKA, HIROSHI |
| | Examiner Steven E. Holton | Art Unit 2629 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 20 February 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-3 and 8-12 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-3 and 8-12 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 2/20/2007. Claims 1-3, and 8-12 are currently pending in the application. An action follows below:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerpheide et al. (USPN: 6680731) in view of Gerpheide (USPN: 5861875), hereinafter the '875 patent.

Regarding claims 1 and 8, which are drawn to similar inventions, Gerpheide discloses a touchpad input device with electrodes formed on a flexible substrate and the substrate having an extension (Fig. 10A, elements 82 and 84) with a circuit substrate provided in the extension (Fig. 10A, element 82). Further, Gerpheide discloses, "adhering the plastic sheets up against a bottom surface of a keyboard cover (col. 5, lines 61-62)". The Examiner notes that this adhering of the two elements is bonding them together; therefore, Gerpheide discloses bonding the flexible substrates to an insulating support plate. Gerpheide also notes that the covering top plate can be 'arcuate' (col. 4, line 10) which indicates a curved support plate could be used. The Examiner notes Gerpheide discusses that by attaching the flexible sheets to the rear of

the keyboard cover a support surface beneath the touch input device is no longer needed (col. 5, lines 59-61). Gerpheide does not expressly discuss the layout of the actual touchpad interface regarding substrates, locations and locations of X and Y electrodes. Gerpheide does disclose the electrodes of the touchpad are printed onto the flexible substrate (col. 5, lines 24-28 and lines 55-58) the use of the silk screening process to apply electrodes means that the electrodes are inherently disposed on one side of the plastic sheets with reverse sides having no electrodes present. Gerpheide further discloses that using touchpad technologies used by the Cirque Corporation™ are the recommended type of touchpads for use with this invention.

The '875 patent by Gerpheide and owned by the Cirque Corporation™ discloses a capacitive touchpad sensor that includes a flexible insulating substrate (Fig. 8a, element 380) with a grid of electrodes applied to the underside of the substrate (Fig. 8a, element 130 directly below element 380). Underneath the first set of electrodes is an insulating layer (Fig. 8a, element 370) and finally a second set of electrodes aligned in the opposite direction (Fig. 8a, element 130). The layout of the electrodes is shown in more detail in Fig. 8b. The '875 patent further shows the touchpad being attached underneath a keyboard body surface (Fig. 2).

At the time of invention it would be obvious to one skilled in the art to combine the teachings of Gerpheide et al. and the '875 patent. Further, it would be logically obvious to one skilled in the art that attaching the touchpad input device of the '875 patent to the underside of the keyboard body would be done to the top side of the mylar substrate of the '875 patent. The touchpad of the '875 patent is intended to be touched

on the shown top side opposite the first layer of electrodes shown in Fig. 8a and it would be obvious that attaching the touchpad underneath another layer or supporting layer would be done by connecting the top of the mylar substrate opposite the electrode elements. The motivation for using the two input devices is suggested by Gerpheide et al., which recommends using touchpad technology of the Cirque Corporation™ and would include touchpads invented by Gerpheide. Thus, the combination of the touchpad described in the '875 patent and the attachment of a touchpad to the underside of a supporting layer as described by Gerpheide et al. would produce the device as described in claims 1 and 8.

Regarding claims 2 and 10, Gerpheide et al. discloses fitting the touch sensor to the underside of a curved surface such as the wrist rest of a keyboard (col. 5, lines 12-14). This would be a recessed area of the surface to hold the input sensor area.

Regarding claim 9, Gerpheide et al. discloses fitting the touch sensor on the underside of arcuate surfaces (col. 5, lines 16-18).

Regarding claim 3, Gerpheide et al. discloses highlighting the area on the housing or support surface that is above the touch area so that a user is able to determine where the touch sensor is located (col. 5, line 64 – col. 6, line 2).

Regarding claims 11 and 12, Gerpheide et al. discloses that the PC board is preferably attached beneath the flexible substrates of the touchpad to reduce the overall area needed to attach the touchpad inside the casing (col. 7, lines 25-41). Therefore, it would be a matter of design choice for one skilled in the to fold the PC board

underneath the flexible substrates as shown by Gerpheide et al. or to connect the PC board to the underside of the casing next to the flexible substrates.

Response to Arguments

3. Applicant's arguments with respect to claims 1-3 and 8-10 have been considered but are moot in view of the new ground(s) of rejection.
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven E. Holton whose telephone number is (571) 272-7903. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven E. Holton
Division 2629
March 30, 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
